

Serial No. 10/587,457
Amdt. dated December 8, 2010
Suppl. Reply to Office action of May 13, 2010

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (cancelled)
2. (previously presented) An apparatus according to claim 11 wherein the one or more hydraulic cylinder piston units comprises two vertically aligned hydraulic cylinder piston units.
3. (previously presented) An apparatus according to claim 11 and further comprising means for adjusting and controlling an expansion volume for said pressure-baked product within said heatable mold.
4. (previously presented) An apparatus according to claim 11 and further comprising means for controlling the retraction velocity of said one or more piston cylinder units from said lower punch plate.

Serial No. 10/587,457

Amdt. dated December 8, 2010

Suppl. Reply to Office action of May 13, 2010

5. (previously presented) An apparatus according to claim 11 wherein said one or more cylinder piston units including an upper oil port and a lower oil port, and two respective oil lines connecting said oil ports alternately to a high pressure oil source and to an oil return reservoir of a hydraulic power system of said apparatus, said two oil lines passing through a valve unit capable of simultaneously switching the oil lines alternately to a high pressure oil feed pump and to an oil return reservoir.

6. (previously presented) An apparatus according to claim 11 and further comprising a hydraulic power control and steering system operatively associated with said cylinder piston unit and an actuating means for moving said peripheral mould, wherein said cylinder piston unit is displaced in a desired direction over a predetermined stroke length by oil flow under pressure acting selectively on either side of said cylinder piston unit, said pressurized oil flow is delivered from said hydraulic power control and steering system by selective actuation and positioning of a multi-position valve, through which passes a first oil feed line to an upper chamber of said hydraulic piston

Serial No. 10/587,457

Amdt. dated December 8, 2010

Suppl. Reply to Office action of May 13, 2010

cylinder unit and a second return oil flow line from a lower chamber of said hydraulic piston cylinder unit, said two oil flow lines are adapted to be selectively switched to pressurize or return hydraulic fluid flow according the position of said multi-position valve.

7. (withdrawn) A method of manufacturing puffed food crackers of desired shape and texture by using an apparatus as defined in claim 1, said method comprising the steps of: feeding of a given amount of starch-containing raw material in a mould cavity formed by the heated punch and the peripheral mould, compressing and baking the material by moving the punch and peripheral mould upwards against the heated upper mould plate incl. holding the punch under pressure by means of the lower cylinder piston, optionally carrying out at least one intermediate partial expansion by releasing the punch downwardly for a desired small amount and time followed by at least one recompression by moving the punch upwards, expanding the pressure-baked material to a desired extent by quickly withdrawing the punch over a given distance within the mold cavity and keeping the punch a desired short time in this

Serial No. 10/587,457
Amdt. dated December 8, 2010
Suppl. Reply to Office action of May 13, 2010

position, optionally slightly recompressing the expanded cracker for its thickness equalization, moving the punch and peripheral mould downwardly so as to completely open the mould cavity and render the expanded cracker free resting on the punch top surface, and discharging the expanded cracker from the punch.

8. (withdrawn) A puffed food cracker directly obtained by the method of claim 7.

9. (withdrawn) A puffed food cracker according to claim 8, having the form of a mini cake with concave or convex surfaces, optionally including coarse dimples.

10. (withdrawn) A puffed food cracker according to claim 8, having the form of a thin chip of irregular tridimensionally bended shape of constant or varying thickness.

Serial No. 10/587,457

Amdt. dated December 8, 2010

Suppl. Reply to Office action of May 13, 2010

11. (currently amended) An apparatus for making puffed crackers from a starch-containing raw material by pressure-baking and expanding the raw material within a heated mould, said apparatus comprising:

a) a heatable stationary upper mould plate having extending therefrom and stationary therewith one or more downwardly directed upper die elements, said upper mould plate is adapted to be adjustably fixed to an upper frame end of said apparatus;

b) a heatable lower mould plate having one or more upwardly directed die or punch elements arranged in registry with said one or more downwardly directed upper die elements, said lower mould plate is adapted to be moved upwardly and downwardly relative to said stationary upper mould plate and having a carrier member movable therewith;

c) an optionally heatable intermediate mould plate disposed between said upper mould plate and said lower mould plate and having one or more die holes arranged in registry with said one or more downwardly directed upper die elements and said one or more upwardly directed die or punch elements, said intermediate mould plate is adapted to be moved upwardly and

Serial No. 10/587,457

Amdt. dated December 8, 2010

Suppl. Reply to Office action of May 13, 2010

downwardly relative to said upper mould plate and said lower mould plate such that either one or both of said downwardly directed upper die elements and said upwardly directed die or punch elements are caused to be slidably received in said one or more die holes so as to define mould cavities therein;

d) means for driving and expanding said heated mould, said driving and expanding means is directly connected to said lower mould plate for moving the same and comprises one or more hydraulic cylinder piston unit mounted beneath said lower mould plate, said one or more hydraulic cylinder piston units having a drive shaft connected to said carrier member of said lower mould plate and said drive shaft and carrier member are disposed vertically in line and with the longitudinal axis of said apparatus; and

e) said hydraulic piston cylinder units having stepped interior chambers of different volume to selectively vary the flow of hydraulic fluid therefrom whereby the velocity of the piston cylinder units is caused to be moved in a downward direction at a rate greater than in an upward direction following baking of raw material within said heated mould.